

**REMARKS**

Reconsideration of this application is respectfully requested in light of the foregoing amendments and the following remarks.

Each of claims 12 and 16 have been amended for reasons unrelated to patentability, including at least one of: to explicitly present one or more elements implicit in the claim as originally written when viewed in light of the specification thereby not narrowing the scope of the claim, to detect infringement more easily, to enlarge the scope of infringement, to cover different kinds of infringement (direct, indirect, contributory, induced, and/or importation, etc.), to expedite the issuance of a claim of particular current licensing interest, to target the claim to a party currently interested in licensing certain embodiments, to enlarge the royalty base of the claim, to cover a particular product or person in the marketplace, and/or to target the claim to a particular industry.

Claims 1-20 are now pending in this application. Claims 1, 12, and 16 are the independent claims.

**I. The Anticipation Rejections**

Claims 1-4 and 16-20 were rejected as anticipated under 35 U.S.C. §102(b). In support of the rejection, Kleveland (U.S. Patent No. 5,969,929) was cited. These rejections are respectfully traversed.

Claims 12-20 were rejected as anticipated under 35 U.S.C. §102(b). In support of the rejection, Geis (U.S. Patent No. 5,825,240) was cited. These rejections are respectfully traversed.

Both Kleveland and Geis fail to establish a prima facie case of anticipation. See MPEP 2131. To anticipate expressly, the “invention must have been known to the art in the detail of the claim; that is, all of the elements and limitations of the claim must be shown in a single prior art reference, arranged as in the claim”. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d

1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001). The single reference must describe the claimed subject matter “with sufficient clarity and detail to establish that the subject matter existed in the prior art and that its existence was recognized by persons of ordinary skill in the field of the invention”. *Crown Operations Int’l, LTD v. Solutia Inc.*, 289 F.3d 1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002). Moreover, the prior art reference must be sufficient to enable one with ordinary skill in the art to practice the claimed invention. *In re Borst*, 345 F.2d 851, 855, 145 USPQ 554, 557 (C.C.P.A. 1965), *cert. denied*, 382 U.S. 973 (1966); *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354, 65 USPQ2d 1385, \_\_\_\_ (Fed. Cir. Jan. 6, 2003) (“A claimed invention cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures cited as prior art are not enabled.”)

### **The Kleveland Reference**

Independent claim 1, from which claims 2-4 depend, recites a “a reverse-biased diode coupled in series with the output of the nonlinear transmission line circuit”. Kleveland does not teach expressly or inherently “a reverse-biased diode coupled in series with the output of the nonlinear transmission line circuit”. In fact, Kleveland teaches no “reverse-biased diode” whatsoever. Instead, Kleveland’s alleged “reverse-biased” diode is actually a “buffer”. See col. 4, lines 45-48. Accordingly, it is respectfully submitted that the rejection of claims 1-4 is unsupported by Kleveland and should be withdrawn.

Independent claim 16, from which claims 17-20 depend, recites “modulating an output signal from the pulse-forming circuit with a laser-generated signal to provide an optical signal”. Kleveland does not teach expressly or inherently “modulating an output signal from the pulse-forming circuit with a laser-generated signal to provide an optical signal”, and in fact teaches no laser-generated signals whatsoever. Accordingly, it is respectfully submitted that the rejection of claims 16-20 is unsupported by Kleveland and should be withdrawn.

### **The Geis Reference**

Independent claim 12, from which claims 13-15 depend, and claim 16, from which claims 17-20 depend, recite “a pulse-forming circuit coupled to a first end of the nonlinear transmission line, a second end of the nonlinear transmission line” “coupled to a periodic signal generator”. Geis does not teach expressly or inherently “a pulse-forming circuit coupled to a first end of the nonlinear transmission line, a second end of the nonlinear transmission line” “coupled to a periodic signal generator”. Instead, Geis allegedly recites that “RTD 510 is connected to one end of a short-circuited standard transmission line 512”. See col. 13, lines 39-40. Accordingly, it is respectfully submitted that the rejection of claims 12-20 is unsupported by Geis and should be withdrawn.

### **II. The Obviousness Rejection**

Claims 5-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of Kleveland (U.S. Patent No. 5,969,929) in view of Geis (U.S. Patent No. 5,825,240). These rejections are respectfully traversed.

None of the cited references, either alone or in any combination, establish a *prima facie* case of obviousness. “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure.” See MPEP § 2143.

As described above, Kleveland's alleged "reverse-biased" diode is actually a "buffer", and Geis allegedly recites that "RTD 510 is connected to one end of a short-circuited standard transmission line 512".

Thus:

1. There is no motivation or suggestion to combine Kleveland with Geis to arrive at the claimed subject matter;
2. One of ordinary skill in the art would not have had a reasonable expectation of success in combining Kleveland with Geis; and
3. Any such combination would render at least Geis inoperable for its intended purpose and/or change the principal of operation of at least Geis.

Because no *prima facie* rejection of any independent claim has been presented, no *prima facie* rejection of any dependent claim can be properly asserted. Consequently, reconsideration and withdrawal of these rejections is respectfully requested.

**CONCLUSION**

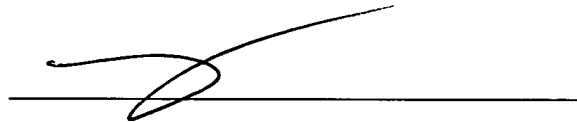
It is respectfully submitted that, in view of the foregoing amendments and remarks, the application as amended is in clear condition for allowance. Reconsideration, withdrawal of all grounds of rejection, and issuance of a Notice of Allowance are earnestly solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. §1.16 or §1.17 to Deposit Account No. 50-2504. The Examiner is invited to contact the undersigned at 434-972-9988 to discuss any matter regarding this application.

Respectfully submitted,

Michael Haynes PLC

Date: 15 June 2004

A handwritten signature in black ink, appearing to be "Michael N. Haynes", written over a horizontal line.

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